

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

#2

OIPE

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/898,554

DATE: 07/23/2001  
TIME: 13:49:31

Input Set : A:\898554.txt  
Output Set: N:\CRF3\07232001\I898554.raw

3 <110> APPLICANT: TALL, ALAN R  
 4 WELCH, CARRIE L  
 5 LIANG, CHIEN-PING  
 7 <120> TITLE OF INVENTION: ATHEROSCLEROSIS SUSECPTIBILITY GENE LOCUS 1 ( ATHSQ1) AND  
 ATHEROSCLEROSIS  
 8 SUSCEPTIBILITY GENE LOCUS 2 (ATHSQ2)  
 10 <130> FILE REFERENCE: 0575/64077  
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/898,554  
 C--> 12 <141> CURRENT FILING DATE: 2001-07-02  
 12 <160> NUMBER OF SEQ ID NOS: 40  
 14 <170> SOFTWARE: PatentIn version 3.1  
 16 <210> SEQ ID NO: 1  
 17 <211> LENGTH: 25  
 18 <212> TYPE: DNA  
 19 <213> ORGANISM: Artificial Sequence ✓  
 21 <220> FEATURE:  
 22 <223> OTHER INFORMATION: Primer ✓  
 24 <400> SEQUENCE: 1  
 25 accccaagac gtgctccag gatga 25  
 28 <210> SEQ ID NO: 2  
 29 <211> LENGTH: 24  
 30 <212> TYPE: DNA  
 31 <213> ORGANISM: Artificial Sequence ✓  
 33 <220> FEATURE:  
 34 <223> OTHER INFORMATION: Primer ✓  
 36 <400> SEQUENCE: 2  
 37 cgcaatgcgt ctcatctgac ttgt 24  
 40 <210> SEQ ID NO: 3  
 41 <211> LENGTH: 25  
 42 <212> TYPE: DNA  
 43 <213> ORGANISM: Artificial Sequence ✓  
 45 <220> FEATURE:  
 46 <223> OTHER INFORMATION: Primer ✓  
 48 <400> SEQUENCE: 3  
 49 aggtatctcgat cgtgaccat ggcga 25  
 52 <210> SEQ ID NO: 4  
 53 <211> LENGTH: 26  
 54 <212> TYPE: DNA  
 55 <213> ORGANISM: Artificial Sequence ✓  
 57 <220> FEATURE:  
 58 <223> OTHER INFORMATION: Primer ✓  
 60 <400> SEQUENCE: 4  
 61 gagcggcgat accgtaaagc acgagg 26  
 64 <210> SEQ ID NO: 5  
 65 <211> LENGTH: 17  
 66 <212> TYPE: DNA  
 67 <213> ORGANISM: Artificial Sequence ✓  
 69 <220> FEATURE:

ENTERED

ENTERED

P.5

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/898,554

DATE: 07/23/2001  
TIME: 13:49:31

Input Set : A:\898554.txt  
Output Set: N:\CRF3\07232001\I898554.raw

```

70 <223> OTHER INFORMATION: Primer ✓
72 <400> SEQUENCE: 5
73 tgtgctgatg caggcac
76 <210> SEQ ID NO: 6
77 <211> LENGTH: 20
78 <212> TYPE: DNA
79 <213> ORGANISM: Artificial Sequence ✓
81 <220> FEATURE:
82 <223> OTHER INFORMATION: Primer ✓
84 <400> SEQUENCE: 6
85 gagaggaatg ctggtaggca
88 <210> SEQ ID NO: 7
89 <211> LENGTH: 23
90 <212> TYPE: DNA
91 <213> ORGANISM: Artificial Sequence ✓
93 <220> FEATURE:
94 <223> OTHER INFORMATION: Primer ✓
96 <400> SEQUENCE: 7
97 gatgtcagaa tacagataca gca
100 <210> SEQ ID NO: 8
101 <211> LENGTH: 20
102 <212> TYPE: DNA
103 <213> ORGANISM: Artificial Sequence ✓
105 <220> FEATURE:
106 <223> OTHER INFORMATION: Primer ✓
108 <400> SEQUENCE: 8
109 gttgcagtgg caccctttaa
112 <210> SEQ ID NO: 9
113 <211> LENGTH: 30
114 <212> TYPE: DNA
115 <213> ORGANISM: Artificial Sequence ✓
117 <220> FEATURE:
118 <223> OTHER INFORMATION: Primer ✓
120 <400> SEQUENCE: 9
121 atgacttttg atgacaagat gaagcctgcg
124 <210> SEQ ID NO: 10
125 <211> LENGTH: 30
126 <212> TYPE: DNA
127 <213> ORGANISM: Artificial Sequence ✓
129 <220> FEATURE:
130 <223> OTHER INFORMATION: Primer ✓
132 <400> SEQUENCE: 10
133 ctctcatgg tcttcagg aatctttaga
136 <210> SEQ ID NO: 11
137 <211> LENGTH: 1092
138 <212> TYPE: DNA
139 <213> ORGANISM: Murinae gen. sp.
141 <220> FEATURE:
142 <221> NAME/KEY: misc_feature

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/898,554

DATE: 07/23/2001

TIME: 13:49:31

Input Set : A:\898554.txt

Output Set: N:\CRF3\07232001\I898554.raw

143 &lt;223&gt; OTHER INFORMATION: B-Isoform 1

146 &lt;400&gt; SEQUENCE: 11

147 atgactttt	atgacaagat	gaaggcctgcg	aatgacgagc	ctgatcagaa	gtcatgtggc	60
149 aagaaggccta	aagggtctgc	tttgctttct	tccccatgg	gttccctgc	tgctatgact	120
151 ctggtcatcc	tctgcctgg	gttgtcagtg	acccttattg	tacagtggac	acaattacgc	180
153 caggtatctg	acctcttaaa	acaataccaa	gcgaaccta	ctcagcagga	tcgtatcctg	240
155 gaagggcaga	tgttagccca	gcagaaggca	gaaaacactt	cacaggaatc	aaagaaggaa	300
157 ctgaaaaggaa	agatagacac	cctcacccag	aagctgaacg	agaaaatccaa	agagcaggag	360
159 gagcttctac	agaagaatca	gaacctccaa	gaagccctgc	aaagagctgc	aaactcttca	420
161 gaggagtccc	agagagaact	caagggaaag	atagacacca	tcacccggaa	gctggacgag	480
163 aaatccaaag	agcaggagga	gcttctgcag.	atgattcaga	acctccaaga	agccctgcag	540
165 agagctgcaa	actctcaga	ggagtcggcag	agagaactca	agggaaagat	agacaccctc	600
167 accttgaagc	tgaacgagaa	atccaaagag	caggaggagc	ttctacagaa	gaatcagaac	660
169 ctccaagaag	ccctgcaaag	agctgcaaac	tttcaggtc	cttgcacaca	agactggctc	720
171 tggcataaaag	aaaactgtt	ccttccat	gggccccta	gctggggaaa	aaaccggcag	780
173 acctgccaat	cttgggtgg	ccagttacta	caaattaatg	gtgcagatga	tctgacattc	840
175 atcttacaag	caatttccca	taccacctcc	ccgttctgg	ttggattgca	tcggaagaag	900
177 cctggccaac	catggctatg	ggagaatgga	actcccttga	atttcaatt	ctttaagacc	960
179 aggggcgtt	ctttacagct	actcccttga	atttcaatt	ctttaagacc	aggggcgtt	1020
181 cttaacat	aaaactgcat	tctaattgca	ttcagcatat	gtcagaagaa	gacaaatcat	1080
183 ttgcaaaattt	ag					1092

186 &lt;210&gt; SEQ ID NO: 12

187 &lt;211&gt; LENGTH: 1192

188 &lt;212&gt; TYPE: DNA

189 &lt;213&gt; ORGANISM: Murinae gen. sp.

191 &lt;220&gt; FEATURE:

192 &lt;221&gt; NAME/KEY: misc\_feature

193 &lt;223&gt; OTHER INFORMATION: M-Isoform 1

196 &lt;400&gt; SEQUENCE: 12

197 atgactttt	atgacaagat	gaaggcctgcg	aatgacgagc	ctgatcagaa	gtcatgtggc	60
199 aagaaggccta	aagggtctgc	tttgctttct	tccccatgg	gttccctgc	tgctatgact	120
201 ctggtcatcc	tctgcctgg	gttgtcagtg	acccttattg	tacagtggac	acaattacgc	180
203 caggtatctg	acctcttaaa	acaataccaa	gcgaaccta	ctcagcagga	tcgtatcctg	240
205 gaagggcaga	tgttagccca	gcagaaggca	gaaaacactt	cacaggaatc	aaagaaggaa	300
207 ctgaaaaggaa	agatagacac	cctcacccag	aagctgaacg	agaaaatccaa	agagcaggag	360
209 gagcttctac	agaagaatca	aagctgaacg	agaaaatccaa	agagcaggag	gagcttctac	420
211 agaagaatca	gaacctccaa	gaagccctgc	aaagagctgc	aaactcttca	gaggagtccc	480
213 gaacctccaa	gaagccctgc	aaagagctgc	aaactcttca	gaggagtccc	agagagaact	540
215 caagggaaag	atagacacca	tcacccggaa	gctggacgag	aaatccaaag	agcaggagga	600
217 gcttctgcag	atgattcaga	acctccaaga	agccctgcag	agagctgca	actcttca	660
219 ggagtccca	agagaactca	agggaaagat	agacaccctc	accttgaagc	tgaacgagaa	720
221 atccaaagag	caggaggagc	ttctacagaa	gaatcagaac	ctccaagaag	ccctgcaaag	780
223 agctgcaaac	tttcaggtc	cttgcacaca	agactggctc	tggcataaaag	aaaactgtt	840
225 ccttccat	gggccccta	gctggggaaa	aaaccggcag	acctgccaat	cttgggtgg	900
227 ccagttacta	caaattaatg	gtgcagatga	tctgacattc	atcttacaag	caatttccca	960
229 taccacctcc	ccattctgg	ttggattgca	tcggaagaag	cctggccaaac	catggctatg	1020
231 ggagaatgga	actcccttga	atttcaatt	ctttaagacc	aggggcgtt	cttacagct	1080
233 atattcatca	ggcaactgtg	cataccttca	agacggagct	gtgttcgcgt	aaaactgcat	1140
235 tctaattgca	ttcagcatat	gtcagaagaa	gacaaatcat	ttgcaaaattt	ag	1192

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/898,554

DATE: 07/23/2001  
TIME: 13:49:31

Input Set : A:\898554.txt  
Output Set: N:\CRF3\07232001\I898554.raw

```

238 <210> SEQ ID NO: 13
239 <211> LENGTH: 744
240 <212> TYPE: DNA
241 <213> ORGANISM: Murinae gen. sp.
243 <220> FEATURE:
244 <221> NAME/KEY: CDS
245 <222> LOCATION: (1)..(744)
246 <223> OTHER INFORMATION:
249 <220> FEATURE:
250 <221> NAME/KEY: misc_feature
251 <223> OTHER INFORMATION: Isoform 7
254 <400> SEQUENCE: 13
255 atg act ttt gat gac aag atg aag cct gcg aat gac gag cct gat cag 48
256 Met Thr Phe Asp Asp Lys Met Lys Pro Ala Asn Asp Glu Pro Asp Gln
257 1 5 10 15
259 aag tca tgt ggc aag aag cct aaa gag gag tcc cag aga gaa ctc aag 96
260 Lys Ser Cys Gly Lys Lys Pro Lys Glu Glu Ser Gln Arg Glu Leu Lys
261 20 25 30
263 gga aag ata gac acc atc acc cgg aag ctg gac gag aaa tcc aaa gag 144
264 Gly Lys Ile Asp Thr Ile Thr Arg Lys Leu Asp Glu Lys Ser Lys Glu
265 35 40 45
267 cag gag gag ctt ctg cag atg att cag aac ctc caa gaa gcc ctg cag 192
268 Gln Glu Glu Leu Leu Gln Met Ile Gln Asn Leu Gln Glu Ala Leu Gln
269 50 55 60
271 aga gct gca aac tct tca gag gag tcc cag aga gaa ctc aag gga aag 240
272 Arg Ala Ala Asn Ser Ser Glu Glu Ser Gln Arg Glu Leu Lys Gly Lys
273 65 70 75 80
275 ata gac acc ctc acc ttg aag ctg aac gag aaa tcc aaa gag cag gag 288
276 Ile Asp Thr Leu Thr Leu Lys Leu Asn Glu Lys Ser Lys Glu Gln Glu
277 85 90 95
279 gag ctt cta cag aag aat cag aac ctc caa gaa gcc ctg caa aga gct 336
280 Glu Leu Leu Gln Lys Asn Gln Asn Leu Gln Glu Ala Leu Gln Arg Ala
281 100 105 110
283 gca aac ttt tca ggt cct tgt cca caa gac tgg ctc tgg cat aaa gaa 384
284 Ala Asn Phe Ser Gly Pro Cys Pro Gln Asp Trp Leu Trp His Lys Glu
285 115 120 125
287 aac tgt tac ctc ttc cat ggg ccc ttt ggc tgg gaa aaa aac cgg cag 432
288 Asn Cys Tyr Leu Phe His Gly Pro Phe Gly Trp Glu Lys Asn Arg Gln
289 130 135 140
291 acc tgc caa tct ttg ggt ggc cag tta cta caa att aat ggt gca gat 480
292 Thr Cys Gln Ser Leu Gly Gly Gln Leu Leu Gln Ile Asn Gly Ala Asp
293 145 150 155 160
295 gat ctg aca ttc atc tta caa gca att tcc cat acc acc tcc cca ttc 528
296 Asp Leu Thr Phe Ile Leu Gln Ala Ile Ser His Thr Thr Ser Pro Phe
297 165 170 175
299 tgg att gga ttg cat cgg aag aag cct ggc caa cca tgg cta tgg gag 576
300 Trp Ile Gly Leu His Arg Lys Lys Pro Gly Gln Pro Trp Leu Trp Glu
301 180 185 190
303 aat gga act cct ttg aat ttt caa ttc ttt aag acc agg ggc gtt tct 624

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/898,554

DATE: 07/23/2001

TIME: 13:49:31

Input Set : A:\898554.txt

Output Set: N:\CRF3\07232001\I898554.raw

304 Asn Gly Thr Pro Leu Asn Phe Gln Phe Phe Lys Thr Arg Gly Val Ser  
 305 195 200 205  
 307 tta cag cta tat tca tca agc aac tgt gca tac ctt caa gac gga gct 672  
 308 Leu Gln Leu Tyr Ser Ser Ser Asn Cys Ala Tyr Leu Gln Asp Gly Ala  
 309 210 215 220  
 311 gtg ttc gct gaa aac tgc att cta att gca ttc agc ata tgt cag aag 720  
 312 Val Phe Ala Glu Asn Cys Ile Leu Ile Ala Phe Ser Ile Cys Gln Lys  
 313 225 230 235 240  
 315 aag aca aat cat ttg caa att tag 744  
 316 Lys Thr Asn His Leu Gln Ile  
 317 245  
 320 <210> SEQ ID NO: 14  
 321 <211> LENGTH: 247  
 322 <212> TYPE: PRT  
 323 <213> ORGANISM: Murinae gen. sp.  
 325 <220> FEATURE:  
 326 <221> NAME/KEY: misc\_feature  
 327 <223> OTHER INFORMATION: Isoform 7  
 329 <400> SEQUENCE: 14  
 331 Met Thr Phe Asp Asp Lys Met Lys Pro Ala Asn Asp Glu Pro Asp Gln  
 332 1 5 10 15  
 335 Lys Ser Cys Gly Lys Lys Pro Lys Glu Glu Ser Gln Arg Glu Leu Lys  
 336 20 25 30  
 339 Gly Lys Ile Asp Thr Ile Thr Arg Lys Leu Asp Glu Lys Ser Lys Glu  
 340 35 40 45  
 343 Gln Glu Glu Leu Leu Gln Met Ile Gln Asn Leu Gln Glu Ala Leu Gln  
 344 50 55 60  
 347 Arg Ala Ala Asn Ser Ser Glu Glu Ser Gln Arg Glu Leu Lys Gly Lys  
 348 65 70 75 80  
 351 Ile Asp Thr Leu Thr Leu Lys Leu Asn Glu Lys Ser Lys Glu Gln Glu  
 352 85 90 95  
 355 Glu Leu Leu Gln Lys Asn Gln Asn Leu Gln Glu Ala Leu Gln Arg Ala  
 356 100 105 110  
 359 Ala Asn Phe Ser Gly Pro Cys Pro Gln Asp Trp Leu Trp His Lys Glu  
 360 115 120 125  
 363 Asn Cys Tyr Leu Phe His Gly Pro Phe Gly Trp Glu Lys Asn Arg Gln  
 364 130 135 140  
 367 Thr Cys Gln Ser Leu Gly Gly Gln Leu Leu Gln Ile Asn Gly Ala Asp  
 368 145 150 155 160  
 371 Asp Leu Thr Phe Ile Leu Gln Ala Ile Ser His Thr Thr Ser Pro Phe  
 372 165 170 175  
 375 Trp Ile Gly Leu His Arg Lys Lys Pro Gly Gln Pro Trp Leu Trp Glu  
 376 180 185 190  
 379 Asn Gly Thr Pro Leu Asn Phe Gln Phe Phe Lys Thr Arg Gly Val Ser  
 380 195 200 205  
 383 Leu Gln Leu Tyr Ser Ser Ser Asn Cys Ala Tyr Leu Gln Asp Gly Ala  
 384 210 215 220  
 387 Val Phe Ala Glu Asn Cys Ile Leu Ile Ala Phe Ser Ile Cys Gln Lys  
 388 225 230 235 240

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY  
PATENT APPLICATION: US/09/898,554

DATE: 07/23/2001  
TIME: 13:49:32

Input Set : A:\898554.txt  
Output Set: N:\CRF3\07232001\I898554.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No  
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:1502 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39  
L:1506 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39  
L:1510 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39  
L:1638 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40  
L:1642 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40  
L:1646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40